



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,216	02/06/2004	Michael L. McClelland	EMER 2630	8119

28997 7590 11/16/2005

HARNESS, DICKEY, & PIERCE, P.L.C
7700 BONHOMME, STE 400
ST. LOUIS, MO 63105

EXAMINER

NGUYEN, HANH N

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,216

Applicant(s)

MCCLELLAND ET AL.

Examiner

Nguyen N. Hanh

Art Unit

2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Newly submitted claim 16 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-15 drawn to a dynamoelectric machine, classified in class 310, subclass 216.
 - II. Claims 16 and 17 drawn to the integrated starter generator for an automotive vehicle, classified in class 310, subclass 166.
3. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination (group II) does not require the "at least one capacitor and at least one endshield having a cavity for holding the capacitor". The subcombination (group I) has separate utility such as [e.g. the subcombination can be used in a device without particulars of the combination (a switched reluctance machine)].

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for

Art Unit: 2834

prosecution on the merits. Accordingly, claims 16 and 17 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 10-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. in view of McClelland et al.

Regarding claim 1, Honda et al. disclose a dynamoelectric machine comprising: a stator core (2 in Fig. 1) having a longitudinal axis and a length along said axis; wire windings (5) on said stator core; a rotor shaft (7); a rotor (3) positioned within the stator core mounted for rotation relative to the stator core about said axis to interact magnetically with the stator core and windings, the rotor having a length along said axis; and at least a first bearing (9) supporting the rotor shaft for rotation, said first bearing being positioned longitudinally within the stator core (Fig. 1) and wherein said length of the rotor is less than said length of the stator. Honda et al. fail to show at least one capacitor and at least one endshield having a cavity for holding the capacitor.

However, McClelland et al. disclose an actuator wherein the position sensor consists capacitor for the purpose of providing feedback for the drive electronics (Col. 14, lines 33-40).

Since Honda et al. and McClelland et al. are in the same field of endeavor, the purpose disclosed by McClelland et al. would have been recognized in the pertinent art of Honda et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Honda et al. by replacing the sensor (23) in the endshield cavity (22) by a position sensor consisting capacitor so as the machine comprising at least one capacitor and at least one endshield having a cavity for holding the capacitor as taught by McClelland et al. for the purpose of providing feedback for the drive electronics.

Regarding claim 11, Honda et al. also disclose a dynamoelectric machine comprising: a stator core (2) having a longitudinal axis and a length along said axis; wire windings (5) on said stator core; and a rotor (3) mounted for rotation relative to the stator core about said axis to interact magnetically with the stator core and windings; and two endshields (10 and 11) defining opposite ends of the machine, at least one of the endshields (11) having a portion which extends to a longitudinal position within the stator core.

Honda et al. fail to show at least one capacitor and at least one endshield having a cavity for holding the capacitor.

However, McClelland et al. disclose an actuator wherein the position sensor consists capacitor for the purpose of providing feedback for the drive electronics (Col. 14, lines 33-40).

Since Honda et al. and McClelland et al. are in the same field of endeavor, the purpose disclosed by McClelland et al. would have been recognized in the pertinent art of Honda et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Honda et al. by replacing sensor (23) in the endshield cavity (22) by a position sensor consisting capacitor so as the machine comprising at least one capacitor and at least one endshield having a cavity for holding the capacitor as taught by McClelland et al. for the purpose of providing feedback for the drive electronics.

Regarding claim 2, Honda et al. also disclose a dynamoelectric machine wherein said length of the rotor is less than said length of the stator (Fig. 1).

Regarding claim 3, Honda et al. also disclose a dynamoelectric machine wherein the rotor is longitudinally centered in the stator core.

Regarding claim 4, Honda et al. also disclose a dynamoelectric machine further comprising a second bearing (8) supporting the rotor shaft for rotation.

Regarding claims 5 and 13, Honda et al. also disclose a dynamoelectric machine wherein the rotor includes a recess (21) for receiving said first bearing (9).

Regarding claim 6, Honda et al. also disclose a dynamoelectric machine further comprising two endshields (10 and 11 in Fig. 1) defining opposite ends of the machine, at least one of the endshields (11) having a portion which extends to a longitudinal position within the stator core.

Art Unit: 2834

Regarding claim 7, Honda et al. also disclose a dynamoelectric machine wherein at least one endshield (11) comprises a housing (11a) for mounting electronic component of the machine (resolver 23a and 23b).

Regarding claims 10 and 15, Honda et al. also disclose a dynamoelectric machine wherein said machine is a switched reluctance type machine (inherent because this machine does not require brushes or slip rings).

Regarding claim 12 Honda et al. also disclose a dynamoelectric machine further comprising a rotor shaft (7) and two bearings (8 and 9) supporting the rotor shaft for rotation and wherein the rotor and at least one of the bearings (9) is positioned longitudinally within the stator core.

5. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. in view of Adams.

Regarding claims 9 and 14, Honda et al. show all limitations of the claimed invention except showing a dynamoelectric machine further comprising a cooling jacket for removing heat from the machine, the cooling jacket being in heat transfer communication with the stator core along the entire said length of the stator core.

However, Adams discloses a motor structure further comprising a cooling jacket (212 in Fig. 1) for removing heat from the machine, the cooling jacket being in heat transfer communication with the stator core along the entire said length of the stator core for the purpose of improving the machine cooling.

Since Honda et al. and Adams are in the same field of endeavor, the purpose disclosed by Adams would have been recognized in the pertinent art of Tanaka et al.

Art Unit: 2834

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Honda et al. by using a cooling jacket for removing heat from the machine, the cooling jacket being in heat transfer communication with the stator core along the entire said length of the stator core as taught by Adams for the purpose of improving the machine cooling.

Conclusion

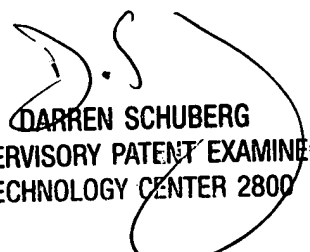
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

November 10, 2005


DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800